

What is claimed is:

1. A washing machine comprising:

a housing;

a tub installed in the housing to store water;

a drum rotatably installed in the tub to hold a laundry; and

a water level sensing apparatus for sensing a water level to provide an appropriate water level for each washing step, the water level sensing apparatus comprising:

an air chamber storing a predetermined amount of air to communicate with the tub to have a pressure of the water work on the stored air;

a sensor installed at the tube to sense the water level by sensing an air pressure in the tube; and

a protecting member for preventing disassembly and breakage of the air chamber and the tube.

2. The washing machine as claimed in claim 1, wherein the air chamber is connected to a drainpipe connected to the tub for discharging the water.

3. The washing machine as claimed in claim 2, wherein the air chamber is connected to an extension pipe diverging from the drainpipe.

4. The washing machine as claimed in claim 1, wherein the tube is connected to an extension pipe extending from the air chamber to be connected to the air chamber.

25  
26           5.       The washing machine as claimed in claim 1, wherein the protecting member  
27 encloses a connecting portion between the air chamber and the tube.

28  
29           6.       The washing machine as claimed in claim 1, wherein the protecting member  
30 is a rib extending from the air chamber to enclose a connecting portion between the air  
31 chamber and the tube.

32  
33           7.       The washing machine as claimed in claim 6, wherein the rib is cylindrical.

34  
35           8.       The washing machine as claimed in claim 6, wherein the rib extends higher  
36 than the connecting portion.

37  
38           9.       The washing machine as claimed in claim 1, wherein the protecting member  
39 securely fixes the air chamber to a peripheral part.

40  
41           10.      The washing machine as claimed in claim 9, wherein the protecting member  
42 comprises a boss formed at the tub and a flange formed at the air chamber to be coupled to the  
43 boss.

44  
45           11.      The washing machine as claimed in claim 1, further comprising a control  
46 apparatus for controlling a supply and discharge of the water by being provided with the  
47 sensed water level from the water level sensing apparatus.

49           12.     An apparatus for sensing a water level of a washing machine, the apparatus  
50     sensing the water level to provide each washing step with an appropriate water level, the  
51     apparatus comprising:

52                 an air chamber storing a predetermined amount of air to communicate with the tub to  
53     have a pressure of the water work on the stored air;

54                 a sensor installed at the tube to sense the water level by sensing an air pressure in the  
55     tube; and

56                 a protecting member for preventing disassembly and breakage of the air chamber and  
57     the tube.

58  
59           13.     The apparatus as claimed in claim 12, wherein the air chamber is connected  
60     to a drainpipe connected to the tub for discharging the water.

61  
62           14.     The apparatus as claimed in claim 13, wherein the air chamber is connected  
63     to an extension pipe diverging from the drainpipe.

64  
65           15.     The apparatus as claimed in claim 12, wherein the tube is connected to an  
66     extension pipe extending from the air chamber to be connected to the air chamber.

67  
68           16.     The apparatus as claimed in claim 12, wherein the protecting member is a rib  
69     extending from the air chamber to enclose a connecting portion between the air chamber and  
70     the tube.

71  
72           17.     The apparatus as claimed in claim 16, wherein the rib is cylindrical.

73  
74           18.     The apparatus as claimed in claim 16, wherein the rib extends higher than the  
75 connecting portion.

76  
77           19.     The apparatus as claimed in claim 12, wherein the protecting member  
78 securely fixes the air chamber to a peripheral part.

79  
80           20.     The apparatus as claimed in claim 9, wherein the protecting member  
81 comprises a boss formed at the tub and a flange formed at the air chamber to be coupled to the  
82 boss.